SAFETY BLASTING CAP

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The present invention relates to new and useful improvements in blasting caps for use in all kinds of blasting operations, including coal mining, wherein dynamite or highly explosive powder is used, and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character which, in the event of a misfire, will become harmless after a predetermined length of time, thereby promoting safety.

Another very important object of the invention is to provide a blasting cap of the aforementioned character which is adapted to be bent at spaced points at relatively sharp or acute angles without breaking.

Other objects of the invention are to provide a blasting cap of the character described which will be comparatively simple in construction, highly efficient and reliable in use, light in weight and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation of a safety blasting cap constructed in accordance with the present invention, showing said cap in position in a charge which has been placed upside down in a hole.

Figure 2 is a view in vertical longitudinal section through the cap.

Figure 3 is a perspective view of the cap.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a tubular casing 1 which is formed of rolled paper. The paper of which the rolled tubular casing 1 is made is of a texture to absorb and permit the passage of moisture or water in a predetermined length of time. One end of the tubular casing 1 is closed, as at 2.

The closed end portion of the tubular casing 1 is internally reduced for providing an explosive chamber 3. The explosive chamber 3 is formed from suitable light cardboard or paper rolled into a tube 4. Thus, a shoulder or abutment 5 is provided in this end portion of the tubular casing 1.

The tubular casing 1 is of just sufficient diameter to nicely receive the usual fuse 6. However, the fuse 6 is too large to enter the explosive chamber 3 but engages or abuts the shoulder 5.

Split clamps 7 are bent around the tubular casing 1 at longitudinally spaced points for contracting said casing and frictionally securing same on the fuse 6. The clamps 7 also positively prevent the tubular casing 1 from unrolling.

In Figure 1 of the drawing, the reference numeral 8 designates a charge in a hole 9. When using the cap constituting the present invention, the fuse 6 is inserted in the tubular casing 1 until arrested by the shoulder or abutment 5.

The clamps 7 are then contracted or squeezed on the casing 1 for securing same on the fuse. The end portion of the cap which contains the explosive chamber 3 is then inserted in one end portion of the charge and said cap is bent substantially in the manner illustrated in Figure 1 of the drawing. The charge is then placed in the hole with the cap first. The hole is then closed and the charge is ready to be fired. Should a misfire occur, moisture or water will, within a predetermined time, penetrate the tubular casing 1 and the explosive chamber 4 and render the powder or dynamite in said chamber 4 harmless.

It is believed that the many advantages of a blasting cap constructed in accordance with the present invention will be readily understood and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A blasting cap comprising a rolled tube of absorbent paper capable of constituting a flexible casing of uniform diameter for the reception of a fuse in one end, said casing including an internally reduced, closed end portion constituting a chamber at the other end of the tube, an explosive in said chamber, and clamps detachably secured to the casing for contracting the casing and frictionally securing same on a fuse.

2. A blasting cap of the character described comprising a tubular casing of uniform diameter, said casing being constructed of bendable, absorbent material for the reception of a fuse in one end of the casing, a tubular explosive chamber in the other end portion of the casing, an explosive in the chamber, said explosive chamber also being of absorbent material and providing an abutment in the casing for limiting the inward movement of a fuse, and bendable clamps detachably mounted at longitudinally spaced points on the casing for contracting and securing said casing to a fuse.

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